Figure 1

Figure 2

Figure 3

Shifted CEBus Chirp
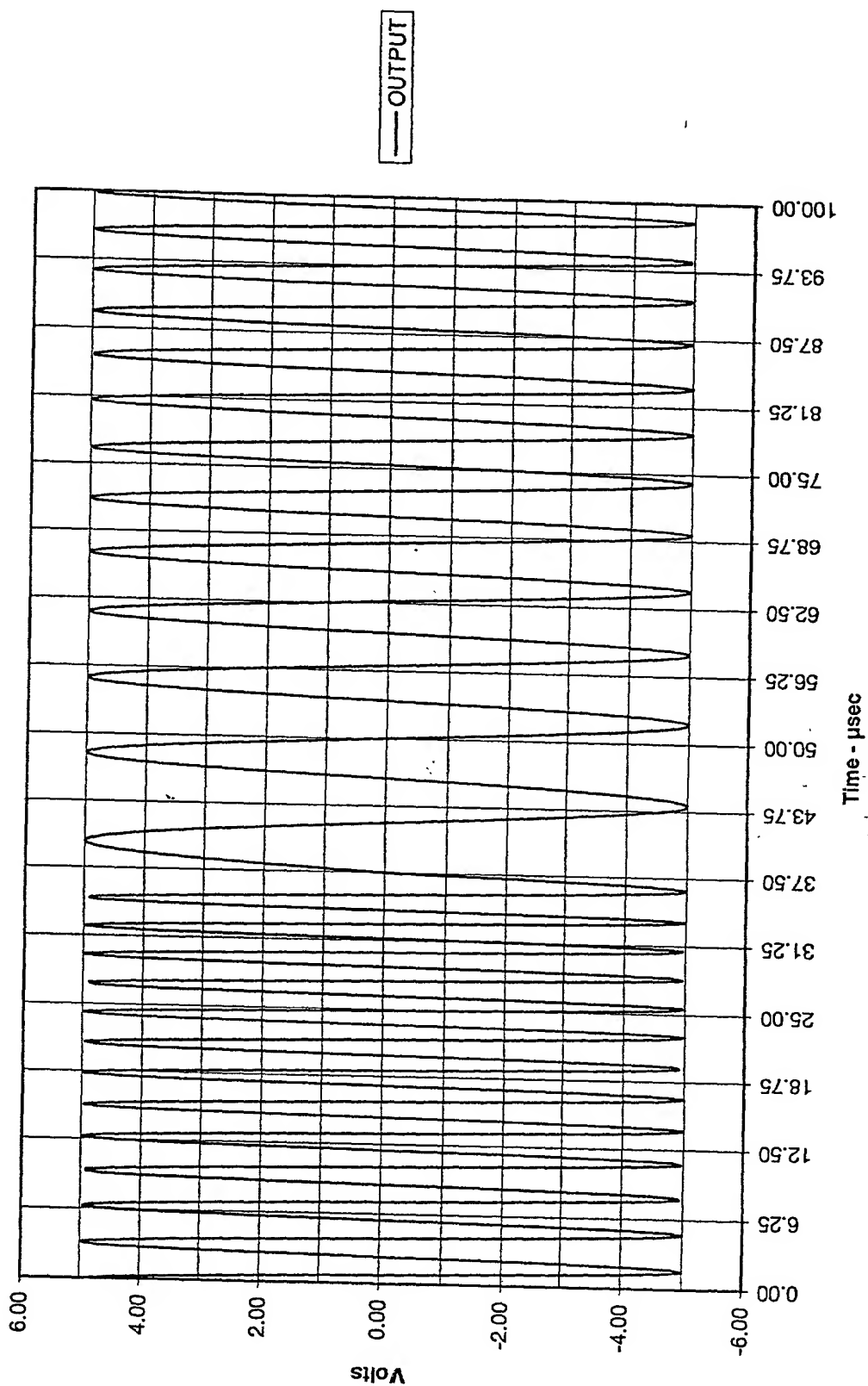
Figure 4
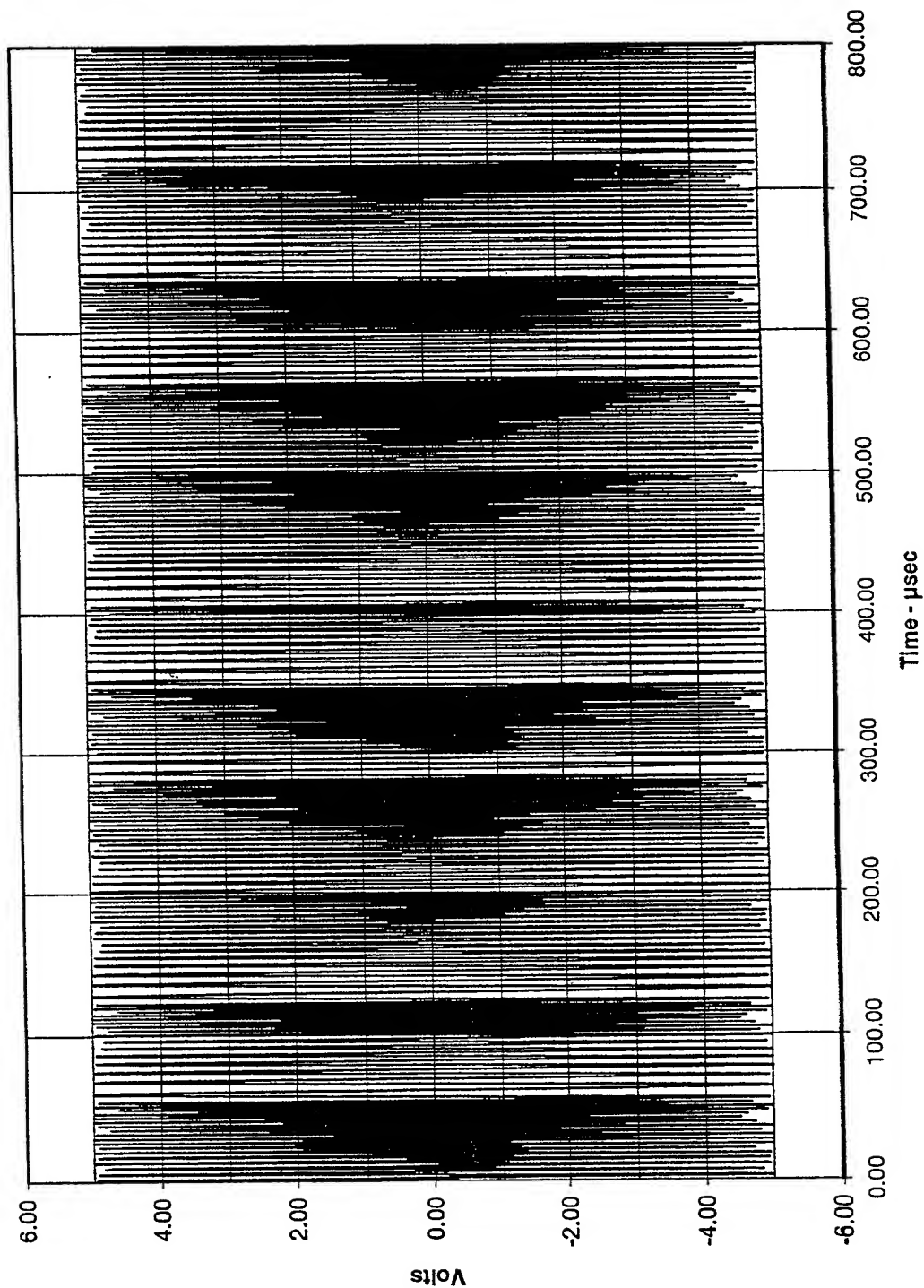
Figure 5

Figure 6

Figure 7

Received Shifted Superchirp

— OUTPUT

Figure 8

APPLN. FILING DATE: JANUARY 11, 2002
TITLE: METHODS AND APPARATUS FOR FEATURE RECOGNITION TIME
SHIFT CORRELATION
INVENTOR(S): ROBERT CHAMBERLAIN
APPLICATION NO.: UNASSIGNED
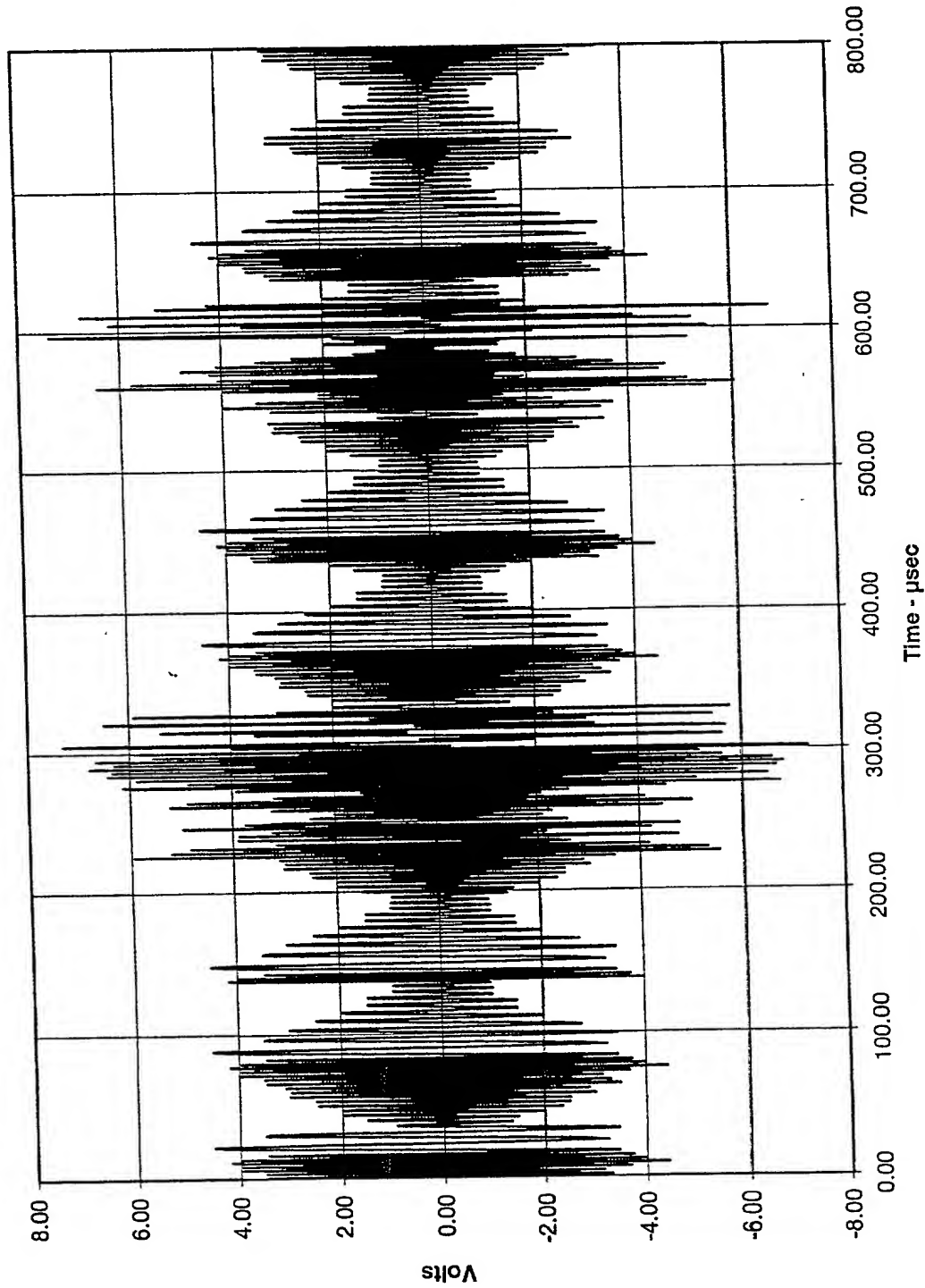
SHEET 9 OF 21
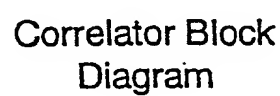
Figure 9

Correlator Block
Diagram

Figure 10

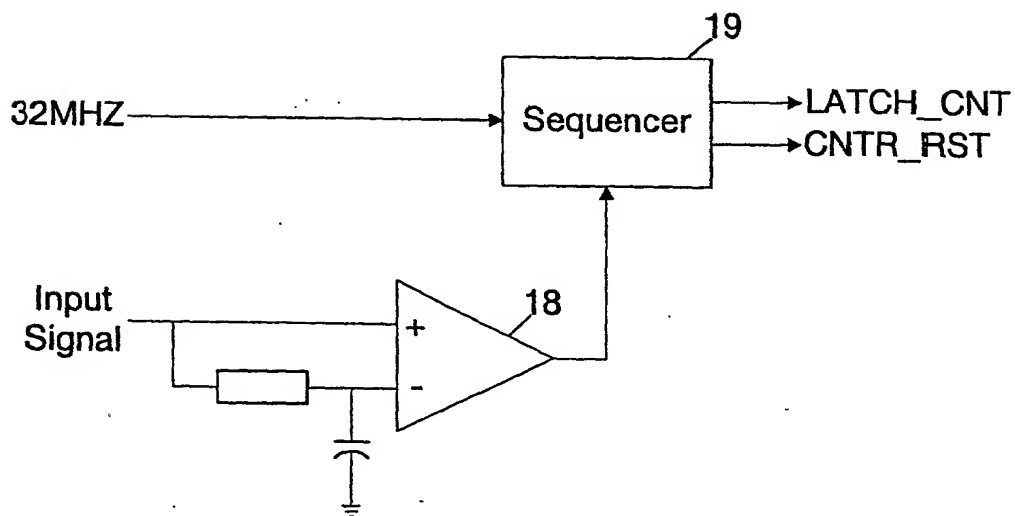## Zero-Crossing Detector
Block Diagram

Figure 11
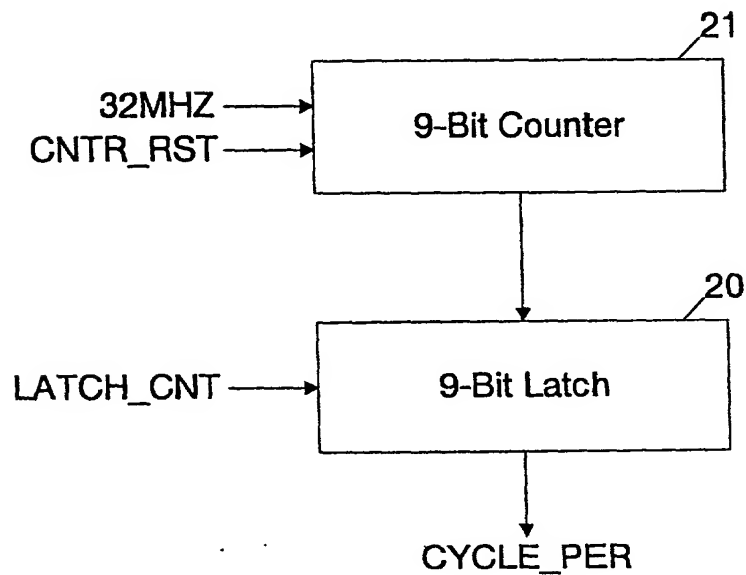
Cycle Period Measurement Module
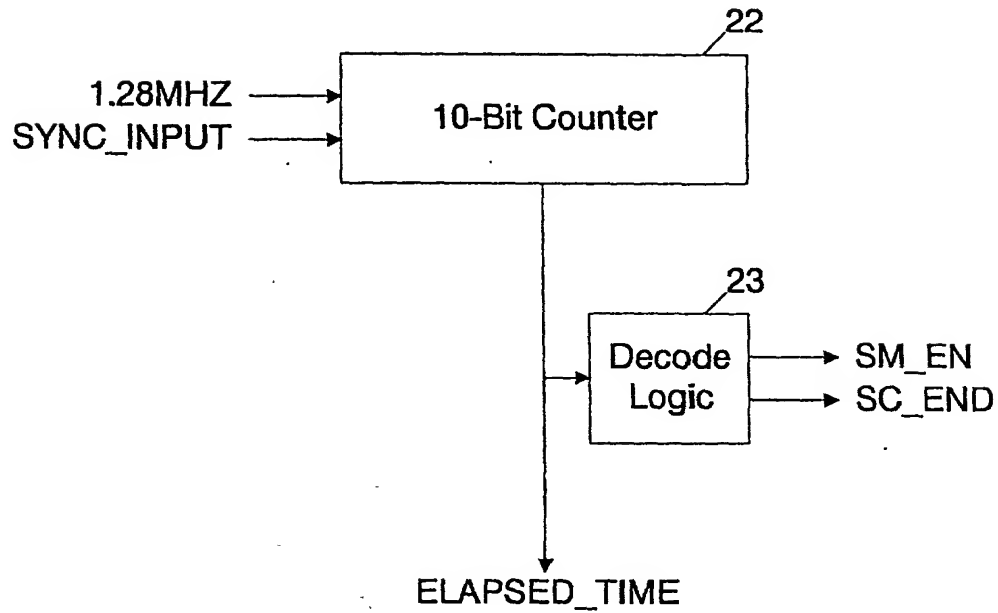## Block Diagram
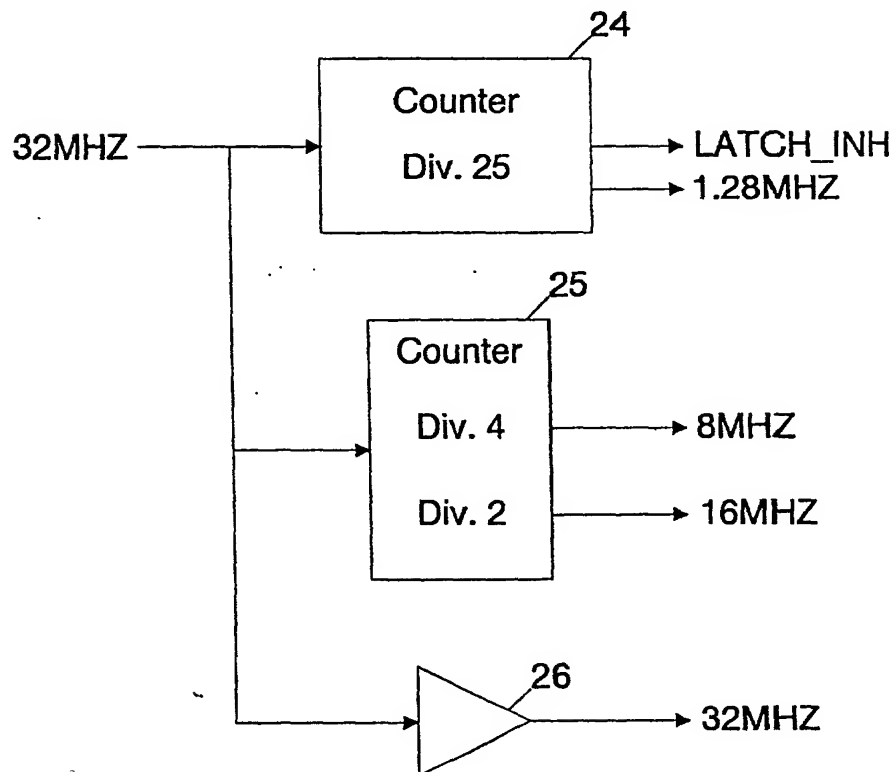
Figure 12

Elapsed Time Counter
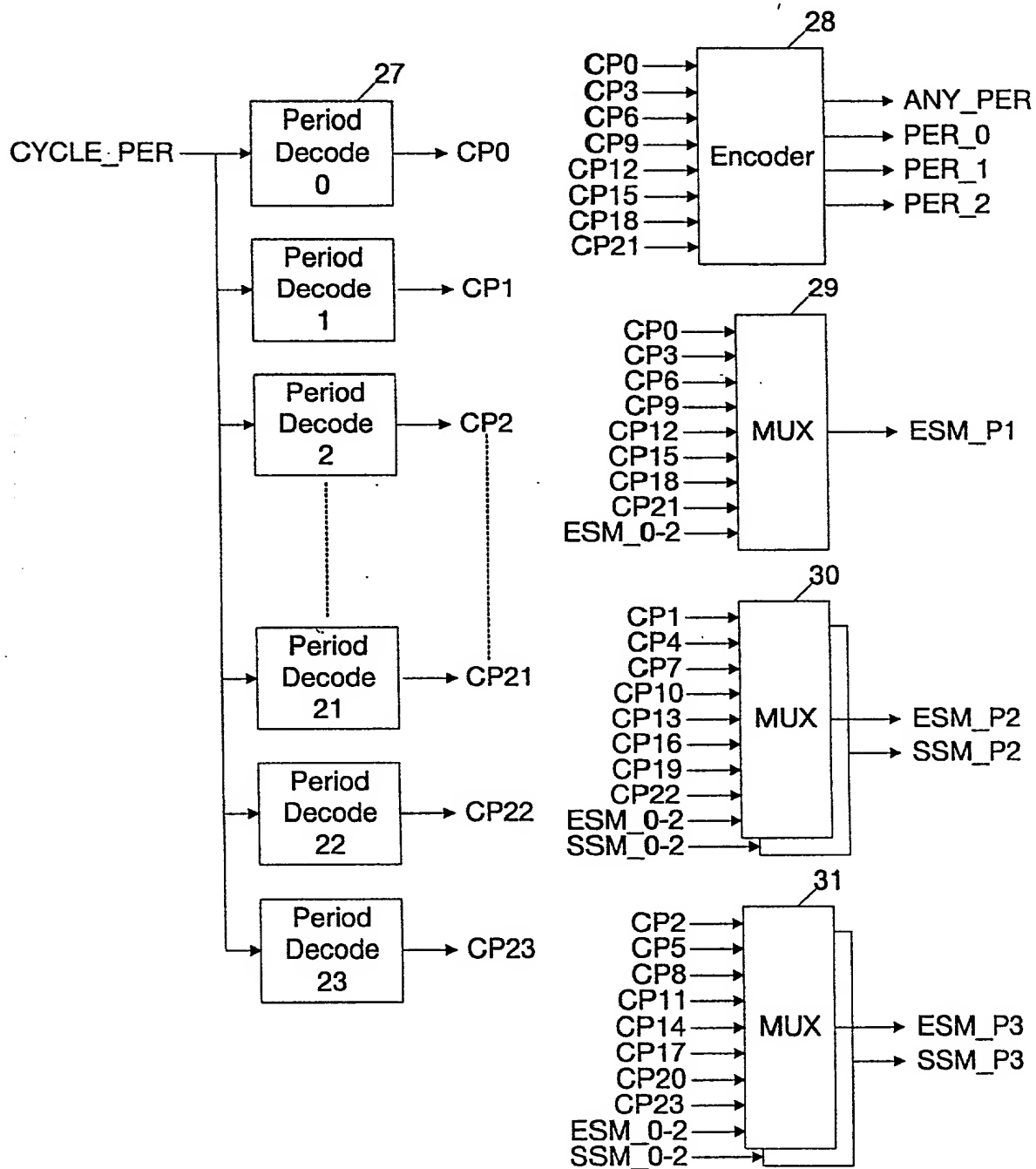## Block Diagram

Figure 13

Clock Generator
Block Diagram

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TITLE: METHODS AND APPARATUS FOR FEATURE RECOGNITION TIME
SHIFT CORRELATION
INVENTOR(S): ROBERT CHAMBERLAIN
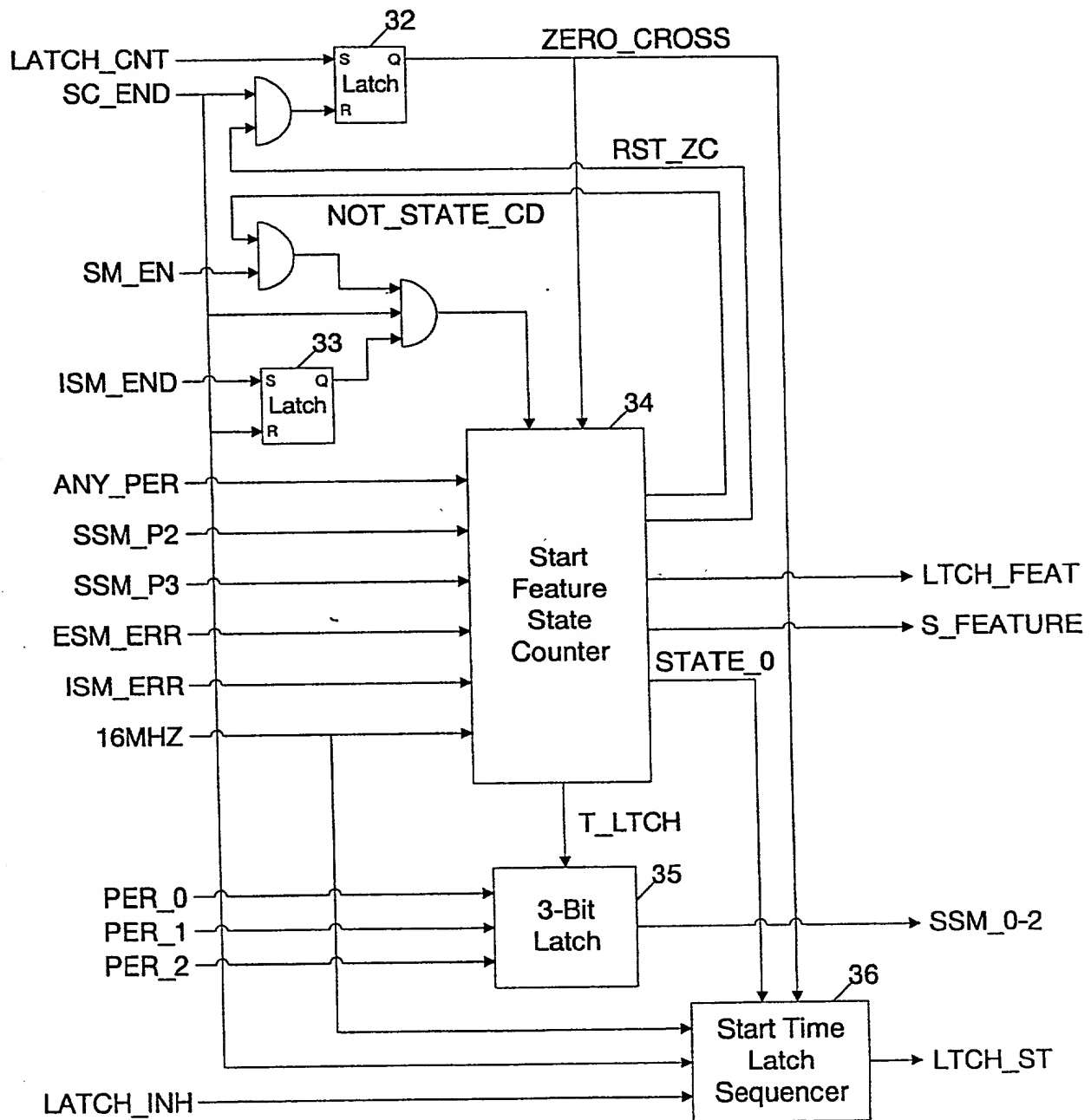APPLICATION NO.: UNASSIGNED

SHEET 14 OF 21

Period Detector
Block Diagram

Figure 14

Start Feature State Machine Block Diagram   Figure 15

Start Feature
State Machine
State Diagram

Figure 16

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TITLE: METHODS AND APPARATUS FOR FEATURE RECOGNITION TIME
SHIFT CORRELATION
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APPLICATION NO.: UNASSIGNED

SHEET 17 OF 21
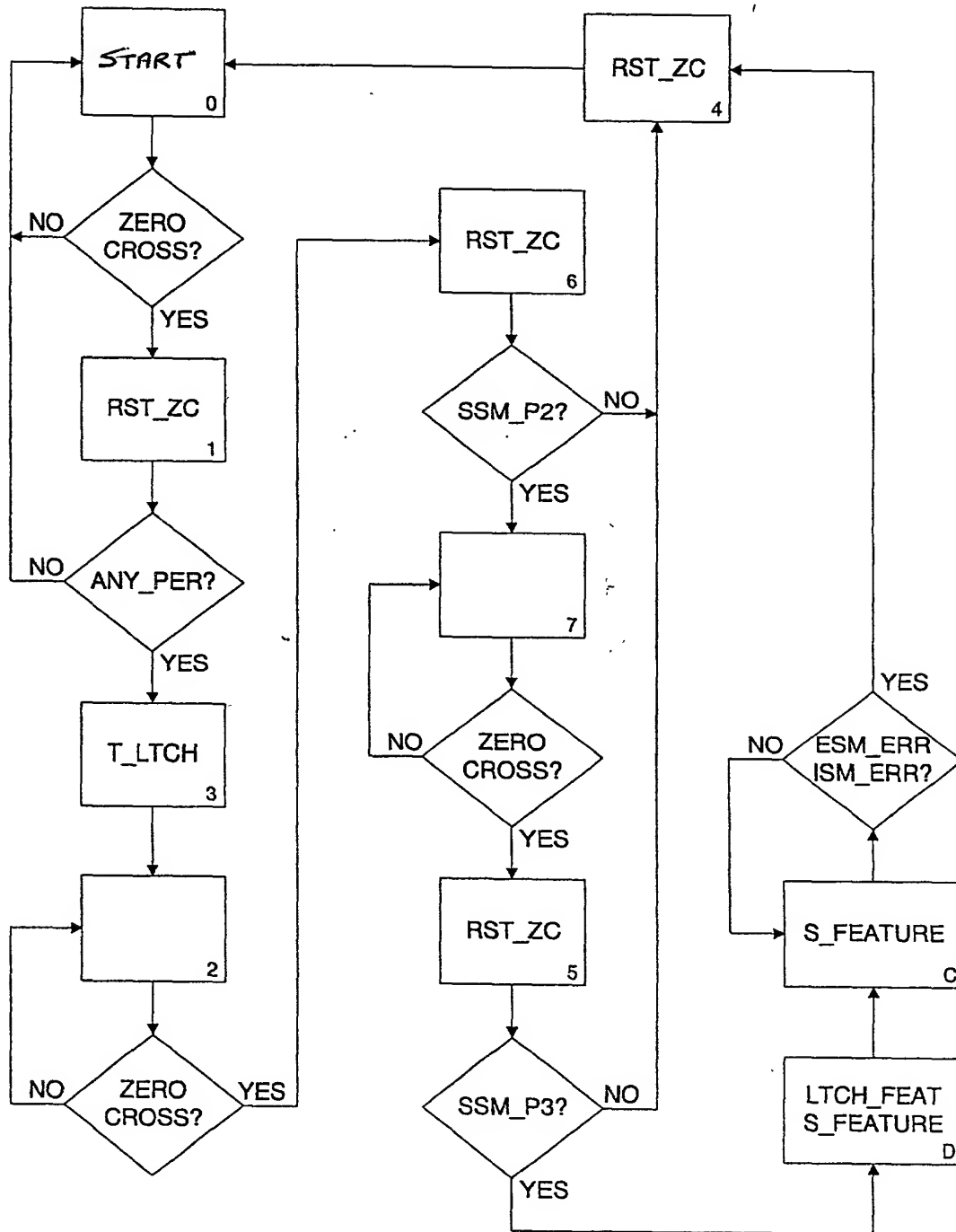
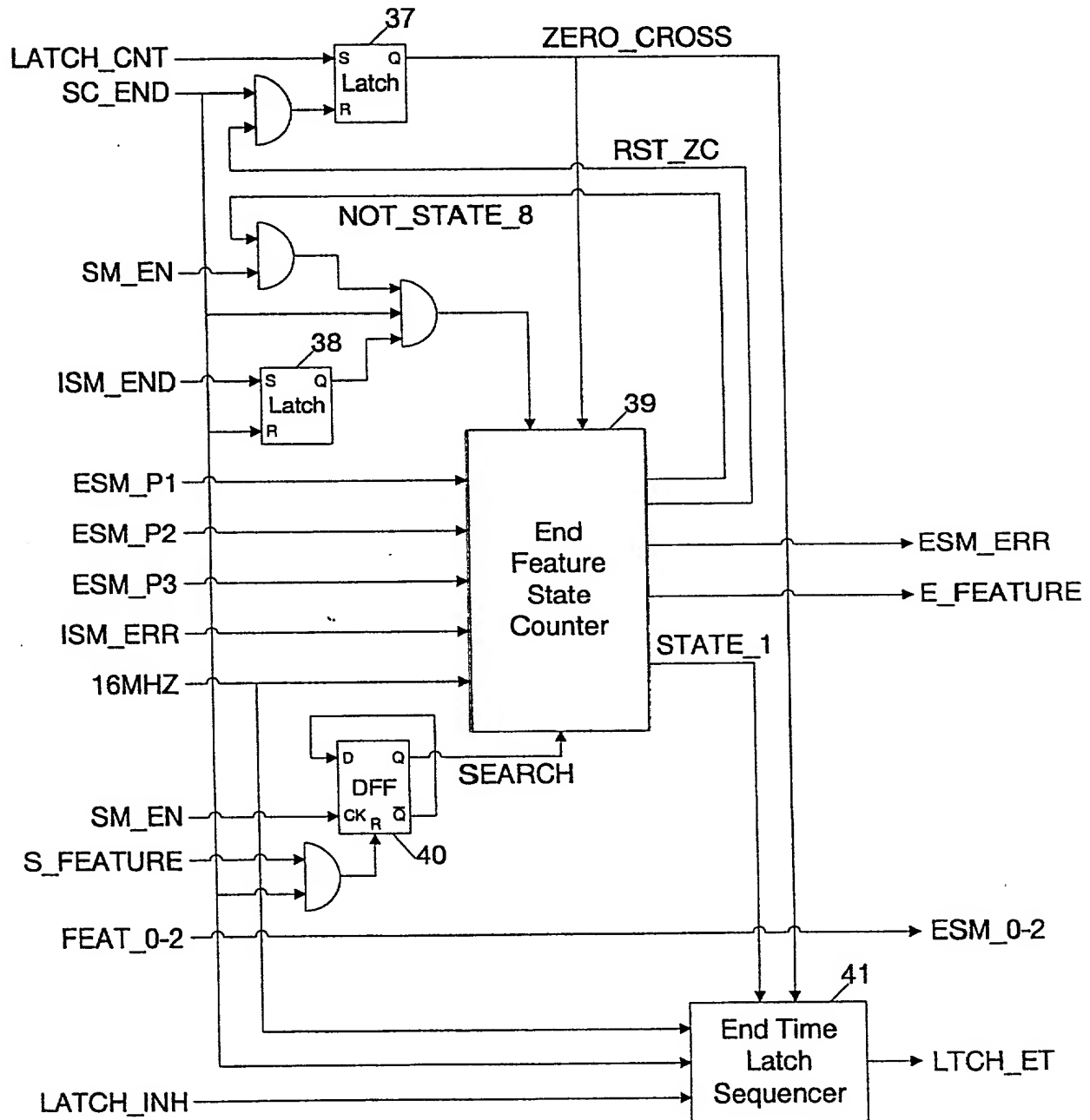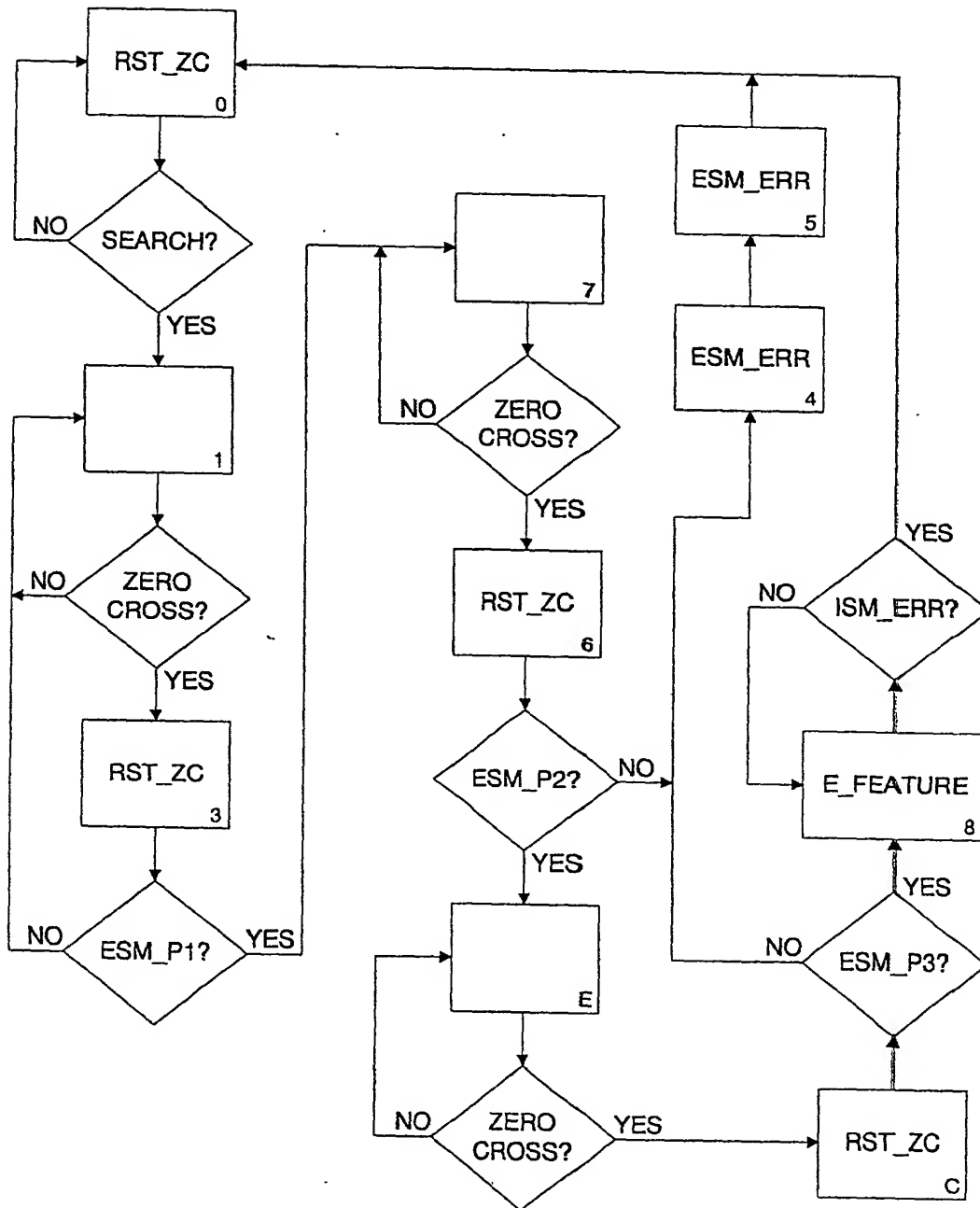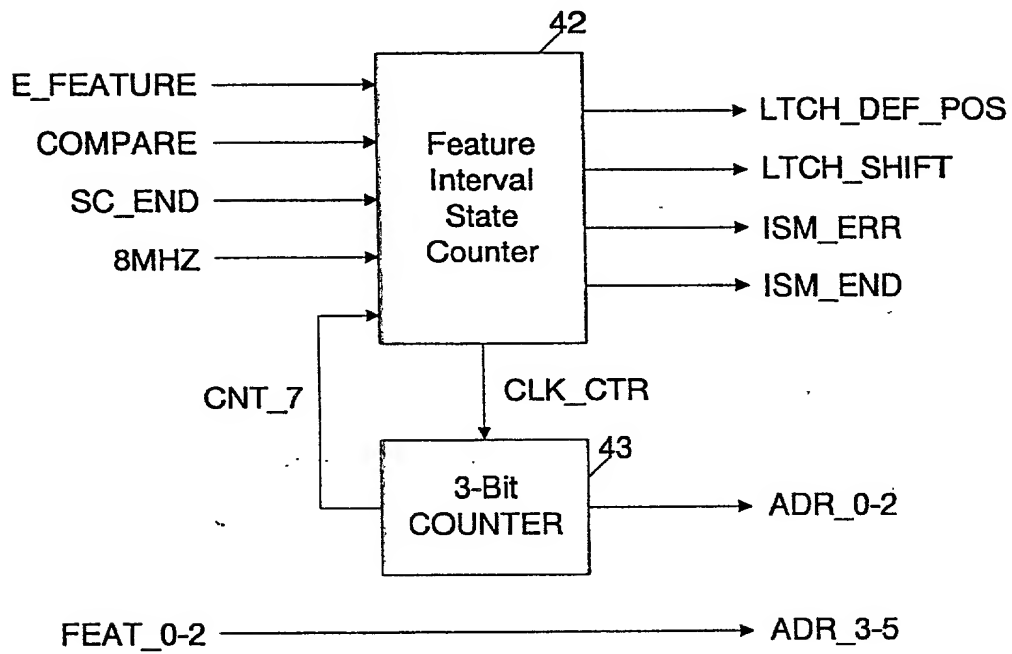# End Feature State Machine Block Diagram

Figure 17

End Feature
State Machine
State Diagram

Figure 18

Feature Interval State Machine   Figure 19
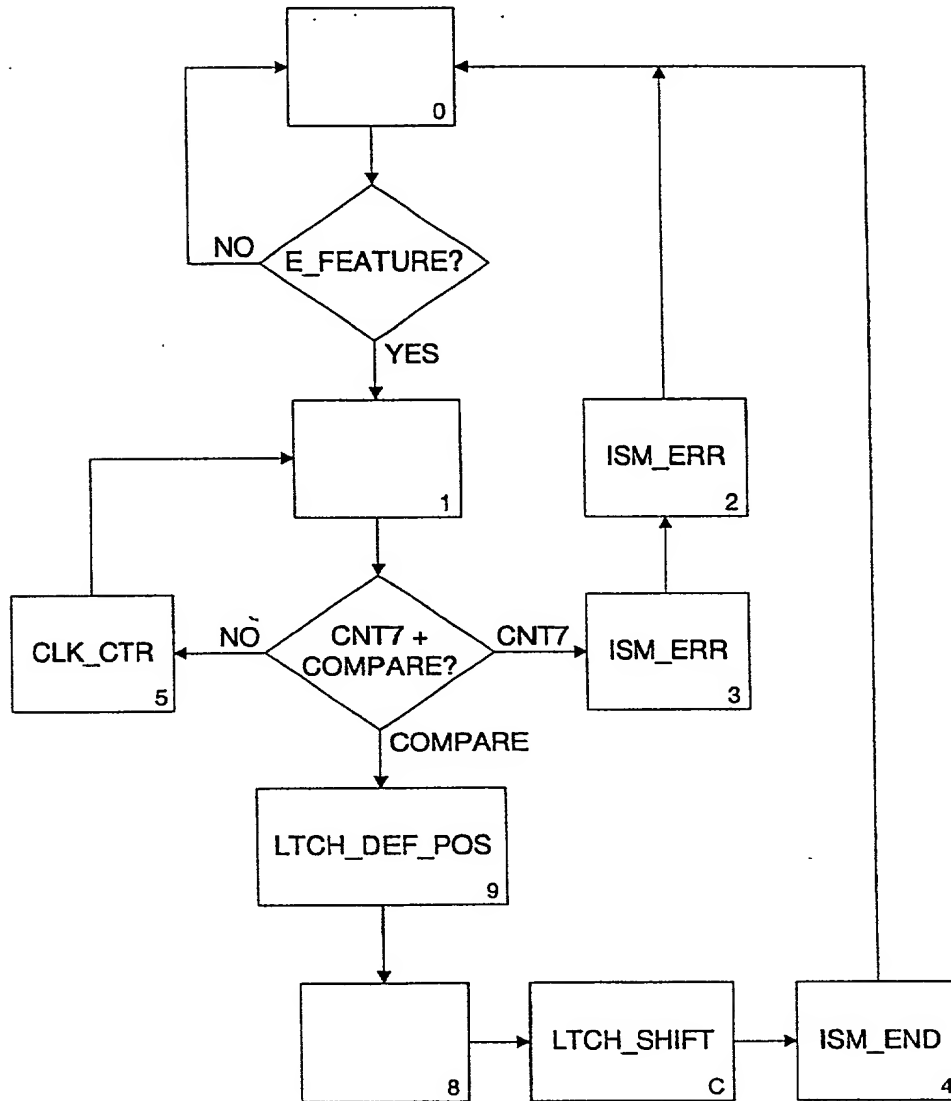## Block Diagram

Feature Interval State Machine State Diagram

Figure 20

Figure 21

Comparator
Block Diagram